

## Miscellaneous.

Correspondence of the Scientific American.

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Since I last wrote, the machinery of another year has commenced its revolution, and who can predict the hidden treasures of science it may bring to light ere it closes. No obscurity rests on the map of knowledge which is revealed to the eye of science in its anticipation of progressive advancement. Commerce, through its aid is opening lines of intercourse that are surmounting the barriers of nature and the impediments of policy. Whilst one agent is riding flood and field, blending plain and city, another more subtle, is changing days in minutes and miles into the smallest divisions of space. The opinion of the explorer is scaling the mountain heights and piercing the abysses of nature to define the path of the searcher of her treasures. The philosopher is hourly extending the boundaries of scientific lore, and finds its limits to recede from view with every advance he makes; whilst mechanical invention finds no bounds in applying its exhaustless combinations to the purposes of art! Human enterprise in all its forms of activity is thus bringing into rapid connection, the races which distances divide and prejudices alienate.

The new patented process of Dr. Wall for improving iron, showing that electricity is developing itself to science, as well as establishing its power in the arts and manufactures, excites much attention: It consists in passing a current of voltaic electricity through a mass of fused metal during the time of its melting, cooling or consolidation, either in the blast, puddling or other furnace, the consequence of which is, that all sulphur, phosphorus, arsenic, or the semi-metals, ever found, more or less in all metals and ores, are evolved, or driven off, and which if allowed to remain would interfere with the molecular arrangement make the metal brittle or otherwise deteriorate its quality. It is claimed that this discovery is decidedly the greatest and most economical which has ever been placed within the reach of manufactures.

Mr. Cochran, a native of one of the New England States, has invented a machine for preparing the irregularly formed timber required for ship building. It is said that it performs its work so well as to give promise of superseding hand labor altogether.

A committee appointed at a recent Iron Masters meeting in Baltimore, are on here for purpose of urging the Maryland members of Congress to aid in changing the duty from a sliding to a fixed standard on iron. They contend that the cause of depression in our iron business, is owing to fluctuations in the English and Scotch markets, and that the difference in the manufactures here and there is in the wages paid to the workmen employed in the manufacture. Since 1846, when the tariff was passed, the price of foreign iron, with duty, has fallen from \$65 per ton, to \$35, a fluctuation of \$30.

From an official document lately sent to Congress, it appears that the standard silver of the United States consists of 1845 parts of pure silver and 179 parts of copper. The dollar contains 416 grains of standard silver of which 37½ grains are pure silver and 44½ alloy. The proportional value of pure gold to pure silver by the laws of the United States, is a 15 to 1. One pound of pure gold is equal to 15 pounds of pure silver.

The Booker gold mine in Buckingham Va., yielded gold worth \$6,300 in thirty-four days, thirty hands being employed. As the expense are rated at \$30, per day, the clear profit was \$5000.

[Dr. Wall's process of passing the electric current through the mass of iron in the manufacturing it, described in Vol. 2 Sci. Am. Its value has been exaggerated. It is not possible for a current of electricity to separate each metal of an alloy in the furnace. Some of our ores, we believe, would be more injured than benefitted by the employment of the battery.

Mr. Cochran, we believe, is from this city,

and was introduced very favorably to the Lords of the Admiralty in England. He has a patent for England and one for his native land. A few months ago, we noticed that his English patent was contested by Mr. Hamilton an American inventor of New York also, and with success. Mr. Hamilton's patent being much older, Mr. Carpmal stated that the principle of Mr. Cochran's machine was the same as that of Mr. Hamilton's. It was something singular to see two New Yorkers fighting about their inventors before the British Court of Chancery; this shows the wide spread genius and enterprise of our people.—Ed.

## International Literary Exchanges.

Very few of our citizens are aware that the valuable works procured by Monsieur Vattermere, as a present from the city of Paris to the city of New York, are deposited in the corporation library in the City Hall, and comprise the most rare works connected with that ancient city, besides magnificent engravings of Nineveh and rare antiquities. Mr. Vattermere has commenced another great and important work in obtaining from every State in the Union such books as have been published in the State, and copies from publishers of each work issued in this country, to be placed in the Hotel de Ville, at Paris, as the library of America. Several States have already made their donations, and others will follow. The Common Council have now an elegant library, which should be made comfortable and thrown open to the public. They should also appoint a suitable librarian, and it will soon increase in magnitude and importance, giving it as much publicity as possible in order that our mechanics and laborers, may avail themselves of its advantages.

We trust that this generous gift will not be embarrassed by any selfish considerations on the part of those who have its immediate management, it belongs to our citizens and they should see that its advantages are thrown open to those, whose means are inadequate to possess the volumes thus given.

Monsieur Vattermere's indefatigable efforts in producing such important international exchanges, are entitled to the warmest gratitude of the American people.

## Parkhurst's Cotton Gin.

In answer to several enquiries from Southern planters, in regard to the above gin, we can only state that, judging its qualities from the notices we have seen in some of our cotemporaries, it would be considered a very valuable invention. But we regard it at present as a doubtful affair, and must wait until we are more thoroughly enlightened as to its operating value. It seems very unaccountable to us why it is not brought before the public. Will the inventor or his agents clear up this point, and thereby relieve many anxious enquiries? Our columns are open to them for this purpose. Silence will be tantamount with us to an acknowledgment that it is no improvement over the ordinary gin.

## Our Cotton Factories.

An article in the St. Johns (N. B.) Observer, states that a number of girls, who were beguiled under flattering promises to leave the Province and work in our New England factories, have returned broken down in constitution, enfeebled for life, and some of them mentally deranged. "They were enslaved," says the Observer, "to a most toilsome and unhealthy occupation," and could not lay by a single cent.

## The English Language.

The English language is yet destined to be the universal language. It is now spoken by more people than any other language, and is increasing in range and extent two-fold faster than any other. It is now spoken by fifty-five million, and the next to it is the Russian—forty-three millions, thirteen millions less. In eighty years more it will be spoken by three hundred millions, and our Republic will be the greatest empire on the face of the globe.

Gen. Rensselaer Van Rensselaer, who figured as the hero of the Navy Island War, during the Canadian troubles, put an end to his life on the first of January at Syracuse, by inhaling charcoal gas.

## Coal.

The immense beds of bituminous coal found in the valley of the Ohio, fill the mind with wonder and surprise, as it reflects on the vast forests of aborescent and sandstone, until the whole series had accumulated plants required in their formation.—Age after age; successive growths of plants, springing up in the same region, were entombed beneath thick strata of shale to the depth of more than a thousand feet; while beneath the whole lay the bed of an ocean floored with fossil salt. Indications of coal are found at intervals, across the great valley, from the Alleghany to the Rocky Mountains. It is found near the surface in Kentucky, Ohio, Indiana, Illinois and Missouri, and without doubt, may be found beneath the extensive tertiary deposits, which form the substratum of the great prairies in the central and northern parts of the Western States. As low down as New Madrid on the Mississippi, coal was thrown up from beneath the bed of the river, by the great earthquake of 1812—a sufficient proof of its continuation in the most depressed part of the great valley.

The coal is of vegetable origin no one who has read much on the subject, or personally examined the coal beds, will now deny. Time was, when it was considered a peculiar mineral product formed in the earth in the same manner at the same time with the rocks that surround it. The product of its chemical analysis, being altogether vegetable, and the artificial formation of coal from wood by Sir James Hall, have silenced all doubts on the subject. The only mystery now is, how such vast quantities of vegetable matter could be accumulated and grow on the spot where they were buried. That they grew in general, on the surface now occupied by the coal appears certain from the perfect state in which the most delicate leaves and stems are preserved. Had they been transported by currents of water and especially from any distance, it is hardly possible that they should not have received more damage. The climate at that period must have been more warm and more humid than at present, as many of the plants are of families which now grow only in tropical climates; and as the laws of nature never change this may be deemed a correct inference.

## Morals of New York.

DRUNKENNESS.—By the Report of the Mayor of this city, we learn that there have been a decrease of 523 persons taken up for drunkenness, and crimes resulting from the same, during the last six months, as compared with the last six months of 1848. This is good news.

JUVENILE THIEVES.—There are 3000 juvenile thieves in this city. They prowl in gangs and commit many depredations. The Bleeker Street Presbyterian Church, of this city, has made a noble effort to reclaim many wandering and vicious boys, in that district of our city. They have established a boys school, and on Sabbath afternoons some of the members go there and teach nearly 200 outcast juveniles, collected from the docks and other evil places of resort. The cause is a noble one, because it is so disinterested and trying—no one can conceive how trying and difficult the task is, to make impressions on the seared hearts of our vicious youth.

## Debt of the City of New York.

This city owes a debt of \$12,522,768. The amount of Stocks issued for the Croton water amounts to \$13,837,000, so that all our city debt arises from the construction of this stupendous work, and more than one million of dollars have been paid of it. The principal and interest pledged for the redemption of this debt will extinguish it in 35 years. The debt is an honorable one, and considering the great amount of wealth in N. Y., no one can say that it is great. We hope however, that the finances will always be managed with economy, and due attention will be paid to decrease the price of those things that add to the general good, such as cheap gas light, &c.

There should be public washing-houses and public baths and rookeries of old buildings should be torn down and room to breathe given to the pent up, poverty-stricken, vice-debased inmates of some districts in our city.

## Patent Office Business.

At the commencement of the New Year we made an important acquisition to our former arrangements for transacting Patent Business, securing the services of two thoroughly versed examiners, who, with our former corps (all being retained) renders our facilities for attending to Patent business better than any other Agency in the Union. We have a list of all the American Patents that were ever granted, and in most cases can inform an inventor, on examining his invention, whether his case is a patentable one or not,

Specifications and Drawings executed at the shortest notice, and guaranteed to answer the requirements of the Patent Office.

The vast amount of Patent business which is executed at this office, renders our facilities better for executing the work, which is entrusted to our charge, thorough and at smaller prices than is charged by other agents.

For further particulars enquire of the 200 patentees who have secured inventions through the Scientific American Office in 1849, and see advertisement on another page.

## Death of two Inventors.

A short time ago Mr. Schenck, an American inventor, died a short distance from Belfast, in the North of Ireland, where he had gone to introduce some valuable improvements in the manufacture of flax.

Mr. J. Kyan, the English inventor, who gave his name to Kyanized wood, died in this city, on the 5th inst. He was 75 years of age. He had been engaged with the Common Council of this City in making a plan to filter the Croton water.

## The Dead of 1849.

It appears that about one hundred remarkable persons died during the year just closed. Among the most prominent are ex-President Polk, Gen. Worth, Gen. Gaines, Col. Duncan, Geo. W. Whistler, American Engineer at Moscow; Albert Gallatin, and Mrs. James Madison.

The committee of the Salford Town Council, England, for the management of the corporation gas works, report that notwithstanding a reduction of charges from 6s. and 5s. to 5s. and 4s. per thousand cubic feet, there has been a great increase in the rental. In the city of New York the price of gas is about four times as much, and not very good at that. It surely might be a great deal cheaper.

Two mechanics of Wilmington, Del., have written to Daniel Webster and Henry Clay asking their aid to assist in the construction of a magnetic telegraph between this country and Great Britain. They feel confident of the success of their invention.

A correspondent enquires for information concerning the discovery of Mr. Paine, now attracting public attention. We have given all we have been able to obtain. Some of Mr. P.'s endorsers will not contribute much to its popularity we fear, but quite the reverse.

Among the questions before the French Assembly, at the last dates, was that of rendering obligatory the observance of the Sabbath, or rather, abstinence from work on that day.

A meeting has been held in this city by gas consumers, to take into consideration the supplying of themselves with gas at one half the present price.

Dr. Samuel Woodward, formerly Superintendent of the Insane Hospital at Worcester, died at Northampton last Thursday evening, the 3rd, aged 63 years.

"A brass rudder has been cast in Philadelphia, which weighs 3000 tons."—Spring field (Mass.) Republican.

Wonder if Deacon Bowles can give the dimension of the ship that is to carry that enormous rudder.

The people in some parts of New Hampshire and Maine, have commenced to use peat for fuel.

The last news from Europe informs us that there was still a difficulty of the Pope's return to Rome.

A new perpetual motion has been invented by a Philadelphian named Reeve.